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PENNIE & EDMONDS LLP
1667 K STREET NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

FERKO, KATHRYN P

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 01/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,278

Applicant(s)

ADAMS ET AL.

Examiner

Kathryn Ferko

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 and 63-65 is/are rejected.
- 7) ☒ Claim(s) 59-62 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figures 3 and 4 are objected to because it is unclear what reference number 32 represents. The trigger is element 25 and the cam is element 32 in other figures. It is possible that the trigger is the intended reference and should be referenced as element 25 in the drawings. Clarification is required.

Specification

2. The disclosure is objected to because of the following informalities: on page 23, line 12 figures 1-1B and 16 are referred to. These do not seem to correspond with the description that follows or the elements referenced. Possibly alternate figures such as 1-1A and 9A would better fit the description. On page 30, line 21 engaging portion is incorrectly numbered 126 rather than 226. Further on page 31, plunger member was incorrectly numbered 263 in line 22 and again in line 30. The number 262 correctly corresponds to the figure and is referenced elsewhere. Additionally, on page 31, plunger member is again incorrectly numbered 263 rather than 262 in lines 3, 4, 9 and line 14. On page 31, line 23 makes reference to figure 19A. There is no figure 19A, so it is possible that reference was to be made to 18A. Furthermore on page 33, line 25 and line 29 the follower end is numbered as 522. There is no reference numeral 522. Follower end may reference 516(b). On page 35, line 13 housing is numbered as 809 rather than 804. Appropriate correction is required.

Claim Objections

3. Claim 58 is objected to because of the following informalities: there appears to be a typographical error in the claim. "...wherein the wand assembly pivots about a pivot axis, and the at least member is spaced..." It is not understood what this statement means and further clarification is required. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-8, 17-18, 20-21, 34-36, 42-44, and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Liang.

Liang clearly discloses a lighter with a housing, elements 1 and 1", as described in column 1, lines 66-69 and column 2, lines 1-3 and seen in figure 1. There is an actuating member movable to selectively ignite the fuel and the actuating member is associated with the housing, as seen in figure 7. Liang also illustrates a movable wand assembly that is associated with the housing and operatively associated with the actuating member such that when the wand is in a first position the actuating member is unable to ignite the fuel. As seen in figure 1, when the wand is rotated to the closed position, the wand blocks the actuating assembly.

Additionally, when the wand is in a second position, the actuating member is movable sufficiently to ignite the fuel. Once the wand is moved to the open position and the control knob is moved to allow actuation, the lighter can ignite. Furthermore, if the safety lock is in the locked position, actuation is restricted despite the position of the wand. Therefore, claims 2-5 of the current application are rejected since there is a position between the first (closed) and second (fully open) positions where the actuation member can ignite the fuel if the safety is unlocked or may restrict actuation when the safety is locked. The wand is pivotally coupled to the housing as described in the abstract. The actuating member is slidable as recited in column 3, lines 35-45, and seen in figure 7, as well as prevented from sliding when the control knob is locked. The actuator member is part of an actuating assembly, as seen in figure 7, and can be considered a trigger. When the wand is in the first (closed position), the fuel is not released and/or a spark generated since the trigger is prevented from movement. Claim 34 of the current application is also demonstrated by Liang since the wand can be releasably positioned in intermediate positions between the closed and extended positions as disclosed in column 4, lines 32-44. Additionally, the wand is releasably positioned in either the open or closed positions. The lighter housing defines the longitudinal axis defined by 8-8 on figure 1. The wand assembly then pivots about a transversely extending pivot axis that is perpendicular to the longitudinal axis as shown in figures 4 and 5. Referring to figure 1, the

housing, element 1' defines a first side and element 1 defines a second side where the wand assembly is located between the first and second sides. Also, as seen in figures 4 and 5 the wand assembly includes a hub/locating block, element 2, which is connected to the wand and the housing and has an undulating outer surface. Liang also describes a tube defining a channel for fluidly conveying the fuel from the nozzle is disclosed in the abstract, in column 3, lines 51-58, in column 4, lines 1-5, and seen in figure 1. As seen in figure 1, Liang discloses an aperture the opening, such as a hole, gap, or slit/slot where the control knob, element 3, is located in which it is spaced from the pivot axis.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9-13, 19, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang in view of Sung in US Patent No. 6,168,420.

Liang clearly discloses the subject matter recited in claims 1 and 34 of the present application. However, Liang does not explicitly teach the following: a cam follower operatively associated with the housing that includes a first portion for interacting with the wand and a second for interacting with the actuating member; a wand assembly that includes a camming surface in which the cam

follower first portion interacts with the camming surface; a wand assembly in which when it is in a first or second position, the cam follower second position immobilizes the actuating member sufficiently to prevent ignition of the fuel; a wand assembly wherein movement of the wand assembly causes the camming surface to move the cam follower; a cam follower that is biased toward the camming surface; a cam follower that is operatively associated with the housing and releasably positions the wands assembly in at least one intermediate position; an actuating member that is movable to selectively to ignite the fuel when the wand assembly is in the closed position and a cam follower that immobilizes the actuating member sufficiently to prevent ignition of the fuel; a cam follower that allows the actuating member to move sufficiently to ignite the fuel when the wand assembly is in the extended position; or a cam follower that prevent or allows the actuating member to move to ignite the fuel when in an intermediate position. Sung clearly teaches a cam mechanism, element 60, that includes a camming surface/lever edge, element 81, and a cam follower, element 80, that is associated with the housing to interact with the camming surface. Sung also teaches to use the cam to immobilize the actuating member to prevent fuel ignition, as described in column 4, lines 1-5 as well as allow actuation, as described in column 4, lines 17-24. Sung also biases the cam follower to the

cam surface with element, 90. Additionally, the use of cam mechanisms is quite common in the lighter art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the lighter of Liang with the pivotal wand assembly to include a cam as taught by Sung to interact with the wand and the actuating member as well as the wand position for the purpose of actuator control.

8. Claims 9-16, 19, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang in view of Hefling.

Liang clearly discloses the subject matter recited in claim 1 of the present application. However, Liang does not explicitly teach the following: a cam follower operatively associated with the housing that includes a first portion for interacting with the wand and a second for interacting with the actuating member; a wand assembly that includes a camming surface in which the cam follower first portion interacts with the camming surface; a wand assembly when in a first or second position has a cam follower that is in a second position and immobilizes the actuating member sufficiently to prevent ignition of the fuel; a wand assembly wherein movement of the wand assembly causes the camming surface to move the cam follower; a camming surface that defines a first detent for engaging the cam follower first portion when the wand assembly is in the first position; a camming surface that further defines a second detent

spaced from the first detent for providing resistance against movement of the wand assembly; a cam follower first portion that engages the second detent when the wand assembly is in the second position; a first position that is a closed position and a second position that is an extended position where the camming surface further defines at least one additional detent between the first and second detents for engaging the cam follower first portion when the wand assembly is in at least one intermediate position between the first and second positions; a cam follower that is biased toward the camming surface; a cam follower operatively associated with the housing and releasably positions the wands assembly in at least one intermediate position; an actuating member that is movable to selectively to ignite the fuel when the wand assembly is in the closed position and the cam follower immobilizes the actuating member sufficiently to prevent ignition of the fuel; a cam follower that allows the actuating member to move sufficiently to ignite the fuel when the wand assembly is in the extended position; or a cam follower that prevent or allows the actuating member to move to ignite the fuel when in an intermediate position. Hefling clearly teaches of a cam mechanism for actuation in a piezoelectric apparatus as stated by the title. Hefling also teaches of a camming surface, element 80, cam engager, element 52, cam ramp, element 47, and a cam follower,

element 65. The actuator as disclosed by Hefling interacts with the cam follower as described in column 3, lines 63-68 and column 4, lines 1-4. The cam follower interacts with the camming surface as illustrated in column 4, lines 30-32. Additionally, the cam interacts with the control knob to allow or inhibit actuation as described in the abstract. The camming ramp is a surface with series detents where the first detent interacts with the follower at a portion, the second detent is spaced from the first and engages at a second position, and etc. as seen in column 3, lines 24-29 and figure 12. Hefling also biases the cam. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the lighter of Liang with the pivotal wand assembly to include a cam to interact with the wand and the actuating member at various positions as well as bias the cam for the purpose of controlled movement and to produce variable or reciprocating motion.

9. Claims 22-23, 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang in view of Sung in US Patent No. 6,213,759.

Liang clearly discloses of a wand assembly including a hub rotatably connected to the housing and a wand connected to the hub where the hub has an undulating surface as described above in paragraph 4. However, Liang does not disclose a wand that has a high-wand-force position and a low-wand force position, a pivoting

force that when applied to the wand is greater in the high-wand-force position, or a first and second actuating force where the first is greater than the second. Sung clearly illustrates a lighter having a housing with a supply of fuel, column 9, lines 34-35 and column 10, lines 1-3, and an actuating member associated with the housing for selectively igniting the fuel, figures 2-4. Sung also discloses a first member position and a second member position where the first actuating force to the actuating member required is greater than the second actuating force to the actuating member which can be considered a high-wand-force position and a low-wand force position, as shown in column 5, lines 41-44. It would have been obvious to modify the movable wand lighter assembly of Liang to incorporate a variable/low and high-wand-force positions for the purpose of deterring unintended users. Also, it would have been obvious to one with ordinary skill in the art to use a pivot to the wand to result in a pivot force that is greater in the high-wand-force position than in the low-wand-force position.

10. Claims 24-33, 47-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang in view of Sung in US Patent No. 6,213,759, and further in view of Hefling.

Liang and Sung clearly disclose of the subject matter presented in claims 9-16 and 34-41. However, they do not disclose the following: a cam follower operatively associated with the housing

that includes a first engaging portion, where in the wand assembly includes a second engaging portion, and in the high-wand-force position the first and second engaging portions are in contact and out of contact in the low-wand-force position; a first engaging portion that is an outward protrusion or an indentation and a second portion that is an indentation or a protrusion; or a wand assembly that is pivotable or slidable between open and closed positions. Hefling clearly teaches of a cam mechanism for actuation in a piezoelectric apparatus as stated by the title, as well as, a camming surface, element 80, cam engager, element 52, cam ramp, element 47, and a cam follower, element 65 for the purpose of providing variable motion. The actuator as disclosed by Hefling interacts with the cam follower as described in column 3, lines 63-68 and column 4, lines 1-4. The cam follower interacts with the camming surface as illustrated in column 4, lines 30-32.

Additionally, the cam interacts with the control knob to allow or inhibit actuation as described in the abstract. The camming ramp is a surface with series detents as disclosed by Hefling. The first detent interacts with the cam follower as described in column 3, lines 63-68 and column 4, lines 1-4. The cam follower interacts with the camming surface as illustrated in column 4, lines 30-32. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the

lighter of Liang to incorporate the teachings of variable wand force positions as taught by Sung and to include a cam to interact with the wand and the actuating member as taught by Hefling for the purpose of actuator control. Additionally, since cam mechanisms are commonly used in the art and known to produce variable or reciprocating motion in another engaged or contacted part, it would be obvious to one skilled in the art to have the engaging portion in contact/out of contact or as outward protrusions/inward indentations at various stages with the variable wand positions. Furthermore, Liang discloses the pivot and sliding, as well as the closed and open positions as seen above in paragraph 4. Therefore, it would be obvious to one skilled in the art at the time the invention was made to have the wand pivotable or slidable as disclosed by Liang modified to coordinate the locations between the open/closed/extended with the high and low wand force positions. Additionally, the camming surface is at an angle or could also be considered substantially vertical since "substantially vertical" is broad terminology.

11. Claims 52 and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang in view of Goto.

Liang clearly discloses of a lighter with a housing having a supply of fuel, an ignition assembly, a wand associated with the housing, a nozzle for releasing fuel, and an actuating member for selective

ignition, as described above in paragraph 4. Liang also describes a tube defining a channel for fluidly conveying the fuel from the nozzle is disclosed in the abstract, in column 3, lines 51-58, in column 4, lines 1-5, and seen in figure 1. However, Liang does not explicitly teach of a coiled wire located in the channel and electrically connected to the ignition assembly and the nozzle. On the other hand, Goto clearly teaches the coiled wire as well as a tube in column 7, lines 65-68 and column 8, lines 1-8. Since the use of coiled wires is well known in the lighter art and often assumed so not explicitly stated, it would be obvious to one with ordinary skill in the art to provide the lighter of Liang to a coiled wire for the purpose of improved ignition. Additionally, the use of batteries in the ignition assembly is also well known in the lighter art. Therefore, it would be obvious to one with ordinary skill in the art to modify the invention to incorporate a battery in the ignition process for more optimal functionality.

12. Claims 53-54, and 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang and Goto as applied to claim 52 and over Liang in claim 58 above, and further in view of McDonough et al.

Liang and Goto clearly disclose of the wand assembly of claim 52 and Liang clearly discloses the wand assembly of claim 58.

However, a metal wand that further comprises of an insulated wire electrically connecting the ignition assembly to wand, a first

electrode operatively supported by the housing, a wire electrically connecting the first electrode to the conductive member, a second electrode formed as portion of the ignition assembly, and an electrical conductor operatively associated with the actuating member such that the movement of the actuating member moves the electrical conductor when the electrical conductor is in electrical communication with the conductive member are not explicitly disclosed. Since the disclosure of the current application does not demonstrate the criticality of using metal for the nozzle, it would be considered a matter of design choice to one with ordinary skill in the art at the time the invention was made. McDonough et al. clearly teach an insulated wire in column 5, lines 20-42.

McDonough et al. also disclose of a first and second electrode assembly as described in column 3, lines 28-50. Therefore, it would be obvious to one with ordinary skill in the art to incorporate the insulated wire and first and second electrode as taught by McDonough in the lighter disclosed by Liang for the purpose of improved conductivity. Additionally, it would be obvious to one with ordinary skill in the art to adapt the electrical conductor to be slidable, since the current application does not express the criticality of slidability; therefore, the method of movement along the conductive member would be considered a matter of design choice.

Allowable Subject Matter

13. Claims 59-62 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn Ferko whose telephone number is (703) 306-3454. The examiner can normally be reached on M-F (7:30-5:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry A Bennett can be reached on (703) 308-0101. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Henry Bennett
Supervisory Patent Examiner
Group 3700

KF
December 31, 2001